

### REMARKS

Claims 1-25 are pending in this application. Claims 1, 9, 11, 15-18, and 20-25 have been amended. No new matter has been added.

The Examiner rejected claims 1-8, 10-14 and 19-25 under 35 U.S.C. 103(a) as being unpatentable over either Xu et al. CN 1330368 or Shuy et al. '160, in view of Suzuki et al. '752 combined with either Yoshida et al. JP 10-143919 or Aratani et al. EP 1122723.

In addition, the Examiner stated that he only had a spot translation of Xu performed and did not have a full translation. He asked that if the applicants had a written English translation of Xu to please provide it.

Neither Applicants nor their attorney have an English translation of Xu, written or verbal. Xu was made of record in another application, 10/406,109, which has a common assignee with the present application. For this other application, a person fluent in Chinese did a spot verbal translation, but did not provide a written translation.

Applicants request the Examiner to provide a full written translation of Xu at this time. The rejection of many claims is based on Xu, a Chinese language document. The Manual of Patent Examining Procedure (hereinafter "MPEP"), Eighth Edition, section 706.02.II discusses examination rules regarding use of foreign language documents in a rejection.

Prior art uncovered in searching the claimed subject matter of a patent application often includes English language abstracts of underlying documents, such as technical literature or foreign patent documents which may not be in the English language. When an abstract is used to support a rejection, the evidence relied upon is the facts contained in the abstract, not additional facts that may be contained in the underlying full text document. Citation of and reliance upon an abstract without citation of and reliance upon the underlying scientific document is generally inappropriate where both the abstract and the underlying document are prior art. See *Ex parte Jones*, 62 USPQ2d 1206, 1208 (Bd. Pat. App. & Inter. 2001) (unpublished). To determine whether both the abstract and the underlying document are prior art, a copy of the underlying document must be obtained and analyzed. If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection. The record must also be clear as to whether the examiner is relying upon the abstract or the full text document to support a rejection. The rationale for this is several-fold. It is not uncommon for a full text document to reveal that the document fully anticipates an invention that the abstract renders obvious at

best. *The converse may also be true, that the full text document will include teachings away from the invention that will preclude an obviousness rejection under 35 U.S.C. 103, when the abstract alone appears to support the rejection.*

An abstract can have a different effective publication date than the full text document. Because all patentability determinations are fact dependent, obtaining and considering full text documents at the earliest practicable time in the examination process will yield the fullest available set of facts upon which to determine patentability, thereby improving quality and reducing pendency.

(Italicized underlined emphasis added.)

Under MPEP 706.02 II, because the Examiner relies upon the text of Xu and not just the abstract, the Examiner should obtain and provide an English language translation. One of the rationales for requiring a translation when the Examiner relies upon the full text is so that “the record is clear as to the precise facts the examiner is relying upon in support of the rejection.” Another rationale is that “the full text [may] include teachings away from the invention that will preclude an obviousness rejection.” It seems odd that the Examiner uses a Chinese language document to reject the claims, and then asks applicants for a copy in English. Surely, Applicants are entitled to copy in English from the U.S. Patent Office of the material the Examiner was relying upon to make the rejection so the grounds of the rejection can be properly understood.

As the Examiner noted: Shuy ‘160 is different from the Xu reference. Applicants respectfully submit that the rejection of claims 1-8, 10-14 and 19-25 relies on portions of Xu that are in the Chinese language portion of the document, using the spot translation the Examiner had performed. A copy of that spot translation was not provided to applicants, nor was a copy of a full translation. Therefore, applicants request that the U.S. Patent office provide a full written English translation of Xu, for the reasons set forth above.

Applicants will make a response based on their best understanding of Xu at this time. Based upon applicants’ best understanding of the Xu reference, they believe the claims are patentable. (Once a translation is provided by the U.S. Patent office and the parts specifically relied upon are translated, then further comments will be provided if needed.)

Applicants have amended claim 1 to clarify the positioning of the various layers of the recording medium. In particular, claim 1 states that “the light transmission layer is

disposed on the opposite side to the substrate with respect to the recording layer and one surface of the light transmission layer constitutes a light incidence plane. . .”

Claim 1 also requires: “at least one recording layer positioned between the reflective layer and the light transmission layer, . . .”

Applicants respectfully submit that claim 1 is allowable over the prior art. The features of claim 1 cannot be obtained by any combination of the prior art. In particular, no prior art reference discloses “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive, wherein the element contained in the first recording film as a primary component and the element contained in the second recording film as a primary component are mixed upon irradiation with the laser beam.”

The abstract of Xu and the specification of Shuy disclose an optical recording medium having a recording layer comprising a transparent layer and a reflecting layer which mix upon irradiation of a laser beam form a recording mark. Thus the transparent layer of Xu and Shuy corresponds to the first recording film of claim 1. The reflecting layer of Xu and Shuy corresponds to the second recording film of claim 1 of the present application. The reflecting layer of Xu and Shuy do not correspond to the reflecting layer of claim 1, because, as claim 1 states “at least one recording layer positioned between the reflective layer and the light transmission layer, . . .” and the reflecting layer of the invention is therefore disposed between the substrate and the last most information recording layer.

In addition, Shuy discloses at paragraph 0027 that the reflecting layer may be selected from the group of materials consisting of Ag, Al, Au, Pt, Cu, In, Sn, W, Ir, Re, Rh, Ta, alloys and/or combinations thereof. Shuy does not disclose the advantageous combination of Cu and Al as described in claim 1. Rather Shuy lists a large number of elements and says that the reflecting layer can be one or a combination of these. Shuy thus does not disclose “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive”. Additionally, Shuy does not disclose a reflective layer as claimed in claim 1.

Suzuki also fails to disclose a second recording film as described in claim 1. Suzuki teaches a first recording layer 3 and a second recording layer 4 which form a low reflectance alloy when they mix. Suzuki does not disclose either of the recording layers

“containing Cu as a primary component and 10 to 30 atomic % of Al as an additive”. Thus Suzuki combined with Shuy still does not give the second recording film disclosed in claim 1.

Yoshida likewise does not teach the “second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive” disclosed in claim 1. Yoshida teaches a dye-stuff recording layer which does not involve the mixing of two layers to form a recording mark. Yoshida thus does not teach a recording layer as described in claim 1.

However, Yoshida does teach a reflective layer, which is not part of the recording layer, which contains Cu as a primary element and Al from 0-30% by atomic weight. This reflecting layer is not part of the recording layer and is used purely to reflect the laser beam. Yoshida adds Al to the Cu for the purpose of improving corrosion resistance. Yoshida fails to teach a recording layer as described in claim 1. Thus combining Yoshida to Suzuki and Shuy and Xu still does not give “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive”.

Aratani discloses an optical recording medium S which includes information layer 2 which serves as the recording layer. Information is recorded by physical change of shape, or uneven pits in layer 2, not in the manner described in claim 1. While Aratani does disclose a reflecting layer 3 of Cu and Al which assists in recording, it is never disclosed that this layer mixes with a first recording film to form a recording mark. Thus the critical feature of claim 1 is also not disclosed in Aratani.

None of the references heretofore cited discloses “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive, wherein the element contained in the first recording film as a primary component and the element contained in the second recording film as a primary component are mixed upon irradiation with the laser beam.” No combination of the prior art references gives this feature. Applicants respectfully submit that claim 1 is allowable over a combination of Xu, Shuy, Suzuki, Yoshida, and Aratani.

The motivation to implement the above feature provides further reason for allowability. In the prior art, a combination of Cu and Al was found to lessen corrosion in reflective layers. The present invention was the result of a detailed study dedicated to reducing jitter, improving the recording sensitivity, and improving the storage stability in mixed recording

layers. Through much experimentation, it was found that the combination of Cu and Al in the second recording film gave favorable results in the above mentioned areas. Fig. 8 of the present application shows some of the results of these experimentations. When one is trying to reduce jitter in a recording layer, it would not be obvious to apply a measure directed toward the totally different goal of reducing corrosion in a different layer. Also, the preferable mixture for improving recording sensitivity, reducing jitter, and improving stability of recorded data would likely be quite different from a preferable mixture to reduce corrosion.

Claims 2-10 which depend from claim 1 are also allowable over the prior art for at least the reason that they contain the patentable features of claim 1. Claim 9 was amended to remove language that was obviated in view of the changes made to claim 1.

Claims 20 and 21 which depend from claim 1 have been amended to correct errors in both claims. In previous claim 20, it was claimed that the light transmittance of a mixed region of the first and second recording films was equal to or less than 3%. The claim should have read, and now reads: "a difference in a light transmittance of a mixed region of the first and second recording films and an unmixed region of the first and second recording films is equal to or less than 3% for a laser beam having a wavelength of 380 nm to 450 nm." Thus, a particular light transmittance is not claimed, but a difference in light transmittance between a mixed and unmixed region of the first and second recording films. Support for this change can be found in paragraph 0059 of the present application. Claim 21 was amended to correct a similar problem and now reads: "a difference in a light transmittance of a mixed region of the first second recording films and an unmixed region of the first and second recording films is equal to or less than 1% for a laser beam having a wavelength of approximately 405 nm."

These changes to claims 20 and 21 provide further reason for allowability of these claims. The novel feature of "a difference in a light transmittance of a mixed region of the first and second recording films and an unmixed region of the first and second recording films is equal to or less than 3% for a laser beam having a wavelength of 380 nm to 450 nm" is not found in the prior art. The similar feature of claim 21 is also not found in the prior art. For at least this reason, dependent claims 20 and 21 are allowable over the prior art.

Independent Claim 11 has been amended in a similar manner to claim 1 to clarify the structure of the optical recording medium. Claim 11 claims the same feature as claim 1 which was discussed above. As noted above, none of the prior art references recite the feature of “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive”. For at least the same reasons that claim 1 is allowable, independent claim 11 is also allowable over the prior art. Claims 12-19 which depend from claim 11 are also allowable for at least the same reasons as claim 11. Claims 15-18 have been amended to remove language which was obviated by the amendments to claim 11.

Claims 22 and 23 have been amended to remedy errors in a similar manner to claims 20 and 21. For at least the same reasons that claims 20 and 21 are allowable, claims 22 and 23 are allowable.

Independent claim 24 has been amended in a manner similar to claims 1 and 11 to clarify structure of the optical recording medium. Claim 24 has been further amended to correct a problem similar to that corrected in claims 20-23.

Claim 24 contains the patentable features of claim 1 and is allowable for at least the same reasons. Claim 24 contains the further patentable feature of claim 20: “wherein a difference in a light transmittance of a mixed region of the first and second recording films and an unmixed region of the first and second recording films is equal to or less than 3% for a laser beam having a wavelength of 380 nm to 450 nm.” This feature is not disclosed or implied in the prior art and no combination thereof will disclose it. For this further reason, independent claim 24 is allowable over the prior art.

Claim 25 which depends from claim 24 has been amended to remedy an error similar to that of claim 21. Claim 25 now contains the further allowable feature of claim 21. For these reasons, claim 25 is also allowable over the prior art.

Examiner further rejected claims 1-25 under 35 U.S.C. 103(a) as being unpatentable over the same references named above in further view of Morimoto ‘345, Shigeta JP 59-225992, and Kinoshita JP 2000-285509.

As described above, applicants have amended the claims. Applicants respectfully submit that claims 1-25 are allowable over the further prior art references for at least the same

reasons described above. Namely, the feature of “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive, wherein the element contained in the first recording film as a primary component and the element contained in the second recording film as a primary component are mixed upon irradiation with the laser beam” is not disclosed or implied in any of the further references.

Morimoto discloses that the reflective layer may be on the same side of the recording film as the substrate or on the opposite side depending on which side the laser beam is incident on the recording medium. But Morimoto does not teach or imply the above mentioned recording film. Thus a combination of Morimoto to the prior art does not yield this feature. For at least this reason claim 1 is allowable in further view of Morimoto.

Shigeta teaches mixing two recording layers, but does not teach the feature of “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive, wherein the element contained in the first recording film as a primary component and the element contained in the second recording film as a primary component are mixed upon irradiation with the laser beam.” Thus combining Shigeta to the prior art does not yield the above mentioned feature of claim 1. For at least this reason claim 1 is allowable over a further combination of Shigeta to the prior art.

Kinoshita likewise does not disclose “a second recording film containing Cu as a primary component and 10 to 30 atomic % of Al as an additive, wherein the element contained in the first recording film as a primary component and the element contained in the second recording film as a primary component are mixed upon irradiation with the laser beam.” Thus combining Kinoshita to the prior art does not yield the above mentioned feature of claim 1.

This allowable feature is contained in independent claims 11 and 24 as well. For at least this reason claims 11 and 24 are allowable in view of the further prior art references.

Additionally, none of the further references discloses the novel feature of amended claim 24: “wherein a difference in a light transmittance of a mixed region of the first and second recording films and an unmixed region of the first and second recording films is equal to or less than 3% for a laser beam having a wavelength of 380 nm to 450 nm.” For this

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further reason, claim 24 is allowable over the further prior art references. Dependent claims 2-10, 12-23, and 25 are allowable for at least all of the reasons discussed above.

Applicants respectfully submit that all claims are now ready for allowance. Applicants again thank the Examiner for his thorough examination of this application. Notice of allowance is earnestly solicited.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,  
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